Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons

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Nuclear security in the Treaty on the Non-Proliferation of Nuclear Weapons

Working paper submitted by Australia, Canada and Spain

I. Introduction

1. The present working paper presents a reflection on how nuclear security[1] fits in with the Treaty on the Non-Proliferation of Nuclear Weapons. The working paper proposes that, in future Non-Proliferation Treaty preparatory committees and in the related meetings during the present Non-Proliferation Treaty review cycle, nuclear security be present as a cross-cutting element in the different pillars; and that this idea appear in a reference to nuclear security in the outcome document for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons.

2. Now that 50 years have passed since the adoption of a Treaty, the States submitting the present working paper believe that this is a necessary reflection, one useful for strengthening the Non-Proliferation Treaty, which remains the cornerstone of the nuclear non-proliferation regime, based on the following:

- **First, technological advances**, which have transformed the nuclear field at a fast rate. These include advances in nuclear energy production, as well as applications of radioactive materials and sources, all of which demand increasingly specialized ways of ensuring sufficient levels of nuclear security to reduce the threat of nuclear terrorism using these new technologies.
- **Second, the emergence of new asymmetric threats, as well as the proliferation of non-State actors** with the potential to access nuclear material and technologies, has created an international situation in which nuclear security is one of the cornerstones of many countries' security policies.
- **Third, the evolution of the non-proliferation regime itself**, which is increasingly complex and rich in stakeholders and instruments.

[1] The term "nuclear security" includes "physical protection" and also encompasses the prevention and detection of, and response to, theft, sabotage, unauthorized access, illegal transfer or other criminal acts involving nuclear material, other radioactive substances or their associated facilities.

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3. In the light of the above, we believe that a robust Non-Proliferation Treaty must not sit on the sidelines of the debate on global governance in nuclear security. The present document does not aim to offer conclusions regarding an issue that is still relatively recent, namely the interaction between nuclear security and the Non-Proliferation Treaty. It does, however, aim to spark a debate on a subject that already has precedents in previous inter-sessional processes (see, e.g., NPT/CONF.2015/WP.1, NPT/CONF.2015/WP.10, NPT/CONF.2020/PC.I/WP.7 and NPT/CONF.2020/PC.I/WP.40), but which is still relatively unexplored and which ought to be given continuity at future sessions of the Preparatory Committee and review conferences.

II. International developments on nuclear security

4. The threat of nuclear and radiological terrorism has evolved very quickly over the past decade; new actors (e.g., new terrorist and criminal groups) have emerged which have the potential for considerable economic and technological capabilities, adapting and evolving in the effort to achieve a major impact — social, economic and even political — through their terrorist actions. An additional consideration would be the impact on the future access to the peaceful uses of nuclear energy for all States, should the public lose faith in nuclear technologies in the light of a deliberate attack using nuclear or radiological materials.

5. The international community has reacted to these developments by addressing these new challenges decisively, including the following highlights:

- The entry into force on 8 May 2016 of the Amendment to the Convention on the Physical Protection of Nuclear Material, under which nuclear facilities are included as crucial elements to be protected.
- The adoption of Security Council resolution 2325 (2016) on weapons of mass destruction and non-State actors, resulting from the comprehensive review process for Council resolution 1540 (2004), led by Spain, which chaired the Security Council Committee established pursuant to resolution 1540 (2004) in 2015 and 2016.
- The Nuclear Security Summit process, which took place between 2010 and 2016, has contributed to raising awareness regarding the nuclear threat, substantially improving the international nuclear security architecture and helping secure sensitive nuclear and radiological materials worldwide. The process reaffirmed leader-level commitment to the three pillars of the Non-Proliferation Treaty and to nuclear security as a long-term national and international priority.
- A number of initiatives have been launched with the aim of supporting nuclear security and mitigating the threat of nuclear terrorism through concrete actions, including the G-7-led Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, the Global Initiative to Combat Nuclear Terrorism, the Proliferation Security Initiative, the Nuclear Security Contact Group and the Nuclear Industry Steering Group on Security.

6. All of these circumstances demand an in-depth analysis of the role that the security of nuclear and radioactive materials and facilities plays in the development of the three pillars of the Non-Proliferation Treaty: nuclear disarmament, control of nuclear proliferation and peaceful use of nuclear energy.

III. Nuclear disarmament and nuclear security

7. Disarmament processes, which originate as political and strategic initiatives, are ultimately very complex from a technological and engineering standpoint. They all require systems, facilities and procedures that guarantee technological safety, radiological protection and security for nuclear materials, facilities and transport.

8. The international community has made considerable progress on reducing the use of key fissile materials, such as through minimizing the use of highly enriched uranium and reusing surplus stocks of plutonium in civilian programmes when it is technically and economically feasible. Research reactors using highly enriched uranium fuel have been converted, decommissioned and replaced in 25 countries, and the reuse of plutonium to manufacture mixed-oxide fuel is a habitual practice in the civil nuclear industry. Such progress has meant that there is less weapons-grade material, held in fewer locations. This outcome is beneficial for nuclear security and for nuclear disarmament.

IV. Proliferation prevention and nuclear security

9. The prevention of nuclear proliferation through the Non-Proliferation Treaty is achieved through the implementation of the International Atomic Energy Agency (IAEA) international nuclear safeguards system and through export control mechanisms for nuclear and dual-use materials, equipment and technologies (e.g., the Zangger Committee and the Nuclear Suppliers Group).

10. The IAEA safeguards system is based primarily on nuclear material accountancy and the verification and inspection of facilities under IAEA safeguards. The design and implementation of accounting and control systems can also be a useful way of enhancing the security of nuclear materials (see IAEA Nuclear Security Series No. 25 G), yet this remains one of the technical challenges to be addressed at all kinds of nuclear facilities. These systems must, furthermore, be complemented by appropriate physical protection and cybersecurity systems, and it is advisable for the synergies between security and safeguards to be explored fully and systematically.

11. The guidelines of the Nuclear Suppliers Group provide, as a condition for export from participating States, guarantees that the importing country of nuclear material or technology meets the IAEA minimum requirements for the physical protection of nuclear materials and facilities (see IAEA information circular INFCIRC/254/Rev.13/Part 1, para. 3 and annex C).

V. Peaceful uses of nuclear energy: new challenges

12. All States parties to the Non-Proliferation Treaty are entitled, under article IV of the Non-Proliferation Treaty, to access to the peaceful uses of nuclear energy. Today, radioactive materials and sources are being used intensively for medical, industrial, agricultural, research and environmental purposes. These materials are used and stored in such diverse settings as hospitals, factories, road construction, research facilities and oil prospecting. Moreover, they are carried from one place to another on a daily basis by land-, sea-, and air-based modes of transportation, opening them to a wider range of security vulnerabilities in the public sphere.

13. The abundance of radioactive material used in these applications increases the possibility that, if not under adequate regulatory control, such materials could fall into the hands of non-State actors and ultimately be used in terrorist attacks or for other criminal purposes. Consequently, the security requirements of practices involving radioactive materials related to the peaceful uses of nuclear energy must be strongly considered, and work must continue worldwide in order to enhance the security of these materials.

14. The international community, through IAEA and other international initiatives, is progressing in the development of technological and scientific programmes and disciplines to ensure the security of nuclear and other radioactive materials and facilities in the peaceful use of nuclear energy (see Non-Proliferation Treaty, article IV). Especially useful are the efforts of IAEA regarding the security of nuclear and other radioactive materials and facilities through the resolutions of its General Conference (see IAEA General Conference resolution GC(61)/RES/9) and the IAEA ongoing Nuclear Security Plans, approved by the Board of Governors at the recommendation of the Secretariat (see IAEA General Conference resolution GC(61)/24).

15. IAEA plays an essential and central coordinating role in the global nuclear security architecture and provides assistance to IAEA member States in their efforts to ensure the security of nuclear and other radioactive materials and facilities. This assistance helps foster safe and more secure use to nuclear technologies, which underpins the premise of ensuring that States have access to the peaceful uses of nuclear energy. IAEA has the mandate, instruments, infrastructure, qualified staff and knowledge necessary to lead subsequent developments in this field and help minimize duplication of efforts across related initiatives.

VI. Conclusions

16. Although the scope and importance of nuclear security have led some to refer to it as the "fourth pillar" of the Non-Proliferation Treaty, this is not the vision or intention of the present paper. Indeed, nuclear security is not an independent pillar; rather, it permeates all three pillars of the Non-Proliferation Treaty as a cross-cutting theme and in an increasingly complex global security environment, and its development should continue to be promoted.

17. It should be recalled that the Non-Proliferation Treaty is the most universal multilateral instrument in the field of non-proliferation and that its three pillars cover all aspects related to nuclear energy. It is not, then, a question of replacing or supplanting the efforts that are already being made in related forums and initiatives, but rather of giving them a place within the Non-Proliferation Treaty.

18. Therefore, the States submitting the present working paper propose that, in future Non-Proliferation Treaty preparatory committees, as well as in the related meetings during the present inter-sessional period, nuclear security be presented as a cross-cutting element in the three Non-Proliferation Treaty pillars. One such way that the signatory States envision achieving this could be through a prominent reference to nuclear security and its cross-cutting thematic nature in the outcome document for the 2020 Review Conference.